

## ERISMADELPHUS

BY

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*Erismadelphus* Mildbr. is remarkable because it is the only African genus of the *Vochysiaceae*, a family represented in tropical America by no less than 5 genera and 180 species. *Erismadelphus* was discovered in 1913 by Prof. J. MILDBRAED and has hitherto been represented by only one species: *E. exsul* Mildbr.

Recent examination of the African collections has, however, revealed the existence of two other taxa. Unfortunately the type of *E. exsul* (Mildbraed s.n. from Elon, French Cameroons) was destroyed at Berlin during the 1939-45 war and no duplicates or cotypes are known to exist. In response to an enquiry Prof. MILDBRAED, to whom we are very grateful, informed one of us that in his view *Corbisier* 1362 from Eala in Belgian Congo was identical with his original type. Prof. MILDBRAED and KEAY have, in fact, together examined *Corbisier* 1362 in the Herbarium of the Jardin Botanique de l'Etat at Bruxelles through the courtesy of Prof. ROBYNS. Duplicates of *Corbisier* 1362 are at Kew and Paris, they agree in every respect with MILDBRAED's original description and figure and we therefore propose that this specimen be adopted as the neotype (lectotype).

*Erismadelphus* Mildbr. and *Erisma* Rudge belong to the tribe *Erismeae* Dumort. of the *Vochysiaceae*. This tribe is characterized by a unilocular practically inferior ovary and by an indehiscent fruit enclosed by enlarged calyx-lobes. *Erismadelphus* differs from *Erisma* mainly by the presence of a complete set of five petals, by the fertile stamen standing in the symmetry plane at the base of the third petal (see diagram in fig. 2) and by the calyx-lobes enlarging after anthesis. These enlarged lobes are the wings of the fruit and make it resemble the fruits of *Dipterocarpaceae*. It is apparent that *Erismadelphus*, with its five petals and its symmetrical flowers, has — morphologically speaking — simpler flowers than *Erisma*. Its place in the *Erismeae* is therefore analogous to that of *Salvertia* in the tribe *Vochysieae* Dumort. and it is interesting to observe these parallel relationships in the two tribes of the family\*.

**ERISMADELPHUS** Mildbr. Bot. Jahrb. **49**: 547-551. 1913; Chevalier & Russel, Compt. Rend. Acad. Sci. **188**: 565. 1929.

\* cf. F. A. STAFLEU, Acta Botanica Neerlandica **1**: 223. 1952, also in Med. Bot. Mus. Utrecht **108**: 223.

Arbores. Folia opposita stipulata; lamina coriacea pennicostata, nervis secundariis subparallelis haud numerosis. Flores in cincinnis pedunculatis dispositi, bracteis sessilibus persistentibus, cincinnis iterum in paniculam dispositis. Calyx semisuperus profunde quinquefidus, laciniis omnibus persistentibus et post anthesim excrescentibus, quarta (torsione postica) basi incrassata et in duo calcaria obtusa superposita producta. Petala quinque subaequalia longe unguiculata, cum calycis laciniis alternantia. Stamen unicum (rarius 2) petalo mediano antepositum. Staminodia 1-3. Ovarium inferum uniloculare, ovulum unicum anatropum includens. Fructus indehiscens, calycis laciniis excrescentibus longe alatus.

Type-species: *Erismadelphus exsul* Mildbr.

Distribution: Two species in West tropical Africa (cf. fig. 3).

### KEY

- 1a. Petioles 7-15 mm long, leaves 8-25 cm long and  $3\frac{1}{2}$ -11 cm wide, bracts 7-9 mm long and 8-10 mm wide . . . . . 2  
 b. Leaves sessile, 6-8 cm long and  $2\frac{1}{2}$ - $3\frac{1}{2}$  cm wide, bracts 4-5 mm long and wide. 1. **E. sessilis** Keay & Staff. sp. nov.  
 2a. Leaves  $3\frac{1}{2}$ -7 cm wide, entirely glabrous; leaf-base always cuneate; lateral nerves only somewhat more prominent than the very prominent secondary venation beneath . . . . .  
 . . . . . 2a. **E. exsul** Mildbr. var. **exsul**  
 b. Leaves 7-11 cm wide, with petiole, midrib and main lateral nerves tomentellous beneath; leaf-base usually cordate or subcordate, rarely cuneate; lateral nerves much more prominent than the secondary venation beneath . . . . .  
 . . . . . 2b. **E. exsul** Mildbr. var. **platyphyllus** Keay & Staff. var. nov.

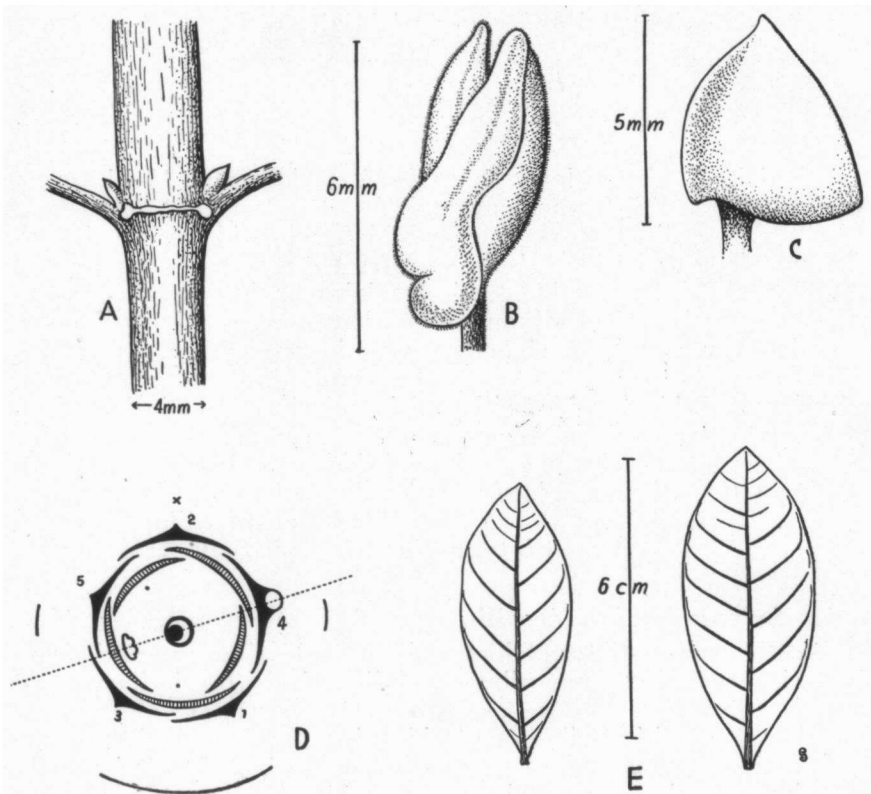
#### 1. *Erismadelphus sessilis* Keay & Staff. sp. nov. (fig. 1).

Ab *E. exsule* Mildbr. foliis sessilibus minoribus angustioribus, bracteis et floribus minoribus, laciniis calycis brevioribus apice obtusis differt.

Arbor. Ramuli juveniles tomentelli. Stipulae subovatae incrassatae  $\frac{1}{2}$ -1 mm longae, eae foliorum oppositorum basibus linea prominula ramulum transiente connexis. Folia sessilia, lamina elliptica nonnunquam oblanceolato-elliptica, basi cuneata, apice obtusata, 6-8 cm longa et  $2\frac{1}{2}$ - $3\frac{1}{2}$  cm lata, supra glabra nervis haud prominentibus; costa nervique laterales subtus puberuli etiam senectute; lamina ipsa subtus inter nervos primum puberula deinde glabrescens; nervi laterales utrinque 6-9 subtus cum costa valde prominentes; rete venularum subtus subprominens.

Paniculae thyrsoideae, partibus juvenilibus tomentellis. Flores in cincinnis plerumque bifloribus, bracteis late reniformi-cordatis circa 4-5 mm longis et latis, nervo mediano conspicuo. Calycis lacinae

exteriore oblique et late lanceolatae, apice obtusae, circa 6 mm longae et  $2-2\frac{1}{2}$  mm latae; laciniae anteriores oblongae, apice rotundatae vel obtusae circa 6 mm longae et  $2\frac{1}{2}-3$  mm latae, lacinia postica oblonga. Petala calycis lacinas superantia obovata, apice rotundata vel obtusa, in alabastris circa 5 mm longa et  $2\frac{1}{2}$  mm lata. Stamen unicum (rarius 2) filamentum pilosulo circa  $1\frac{1}{2}$  mm longo; connectivum crassum oblongum apice subincrassatum et subtruncatum circa  $1\frac{1}{2}$  mm longum, antheris circa  $\frac{3}{4}$  mm longis. Staminodia 1 vel 2 parvula claviformia. Stylus  $\frac{3}{4}-1$  mm longus, stigmate capitato. Fructus ignotus.



*Erismadelphus sessilis* Keay & Stafl.

Fig. 1. *Erismadelphus sessilis* Keay & Stafl. A. stipular ridge; B. flower-bud; C. bract; D. diagram; E. leaves.

Holotype: Georges Le Testu 5559, Gabon, Kembélé (Haute Ngounyé), fl. 4 Oct. 1925: in herb. P (specimen unicum).

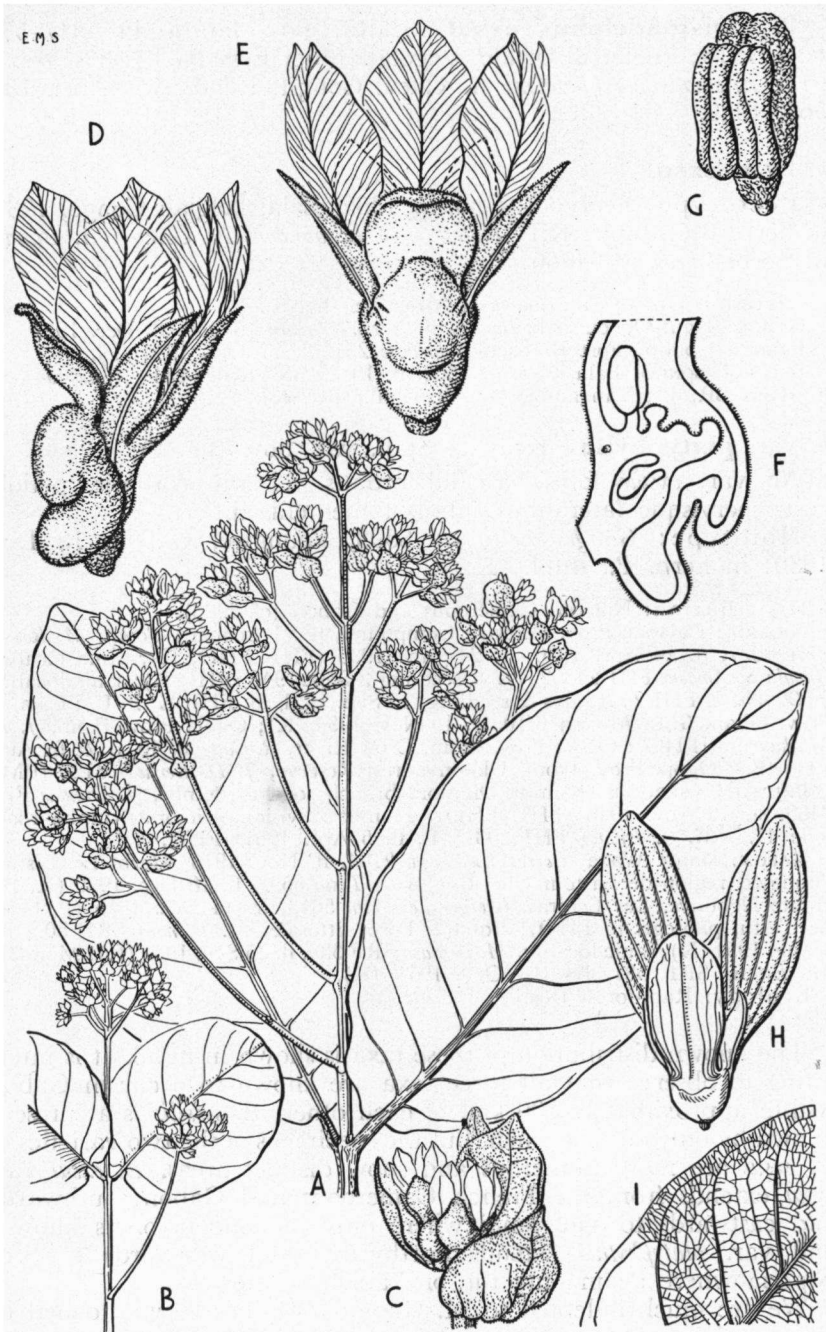


Fig. 2. *Erisma delphus exsul* Mildbr. var. *platyphyllus* Keay & Staffl. A. inflorescence; B. young leaves; C. cincinnus and bracts; D & E. adult flower; F. longitudinal section of the flower; G. stamen; H. fruit; I. secondary nervation of the leaf.

2. ***Erismadelphus exsul*** Mildbr. Bot. Jahrb. **49**: 547-551. *pl.* 1. 1913; Engler & Drude, *Vegetation der Erde* **9** (3<sup>1</sup>): 831. *pl.* 392. 915. *Erismadelphus baudoni* A. Chev. *Compt. Rend. Acad. Sci.* **188**: 565. 1929.

**a. var. *exsul***

Lectotype (neotype): *Corbisier* 1362, Eala, Belgian Congo, 1932: in herb. BR; dupl.: K, P. *Holotype* of *E. baudoni* A. Chev.: *A. Baudon* in herb. *Chevalier* 34066: P.

Distribution: West Equatorial Africa (cf. fig. 3).

GABON: Haut-Ogooué, *A. Baudon* in herb. *Chevalier* 34066, fl. Dec. 1927 (P).

FRENCH CONGO: Fort Rousset, *Aubréville* 231, fl. 27 Oct. 1945 (P).

BELGIAN CONGO: Eala, *Corbisier* 1362, fl. 1932 (BR, K, P); Eala, *J. Lebrun* 533, fl. 1930 (BR, P); Yangambi, *Louis* 9964, fl. (BR, K).

**b. var. *platyphyllus* Keay & Staf. var. nov. (fig. 2).**

Ab var. *exsule* foliis basi subcordatis vel alte cordatis, petiolis costis nervisque lateralibus subtu tomentellis differt.

*Holotype*: *Georges Le Testu* 8593, Pougwé, Gabon, 18 Dec. 1930: in herb. P., dupl.: K.

Distribution: Nigeria, Cameroons and Gabon (cf. fig. 3).

NIGERIA: Calabar Prov. Forestry Compound, no. 1 Leopard Town, *M. Robson* FHI 1027, fl. 24 Apr. 1936, fr. 24 June 1936 (FHI, FHO, K); same locality, *Okpala & Amachi* FHI 24302, lvs & seedling 2 Sep. 1949 (FHI, K); same locality, *J. O. Amachi* FHI 24313, lvs & seedlings 15 Sep. 1951 (B, FHI, K, P, U); Calabar Prov. Oban, *G. C. R. Gray* 6/10, fr. 19 Nov. 1934 (K); Ogoja Prov. Ikom, *J. H. Mackay* s.n. (FHO); Ogoja Prov. Ikom, Cross River, *R. Catterall* 40, fl. & fr. Aug. 1934 (K); Ogoja Prov. Ikom, Ukpon Forest Reserve, *J. D. Kennedy* 3128 (BM).

BRITISH CAMEROONS: Kumba Division, branch road to Bombe, *J. Dundas* FHI 8489, st. 16 Nov. 1946 (FHI, FHO); Kumba Division, Victoria-Kumba road, mile 41.5, *M. C. Ejifor* FHI 29315 L, fl. 5 Apr. 1951 (FHI).

GABON: Haute Waka, *Georges Le Testu* 2194, fl. Nov. 1916 (Herb. Le Testu); Pougwé, région de Lastoursville, *Georges Le Testu* 8593, fl. 18 Dec. 1930 (K, P); Haute Ngounyé, Les Echiras, *Georges Le Testu* 5813, fr. 14 Dec. 1915 (P, herb. Le Testu, fotogr. in FHO); Equata, Forêt littorale, *M. Bernard* SRF 509, lvs 3 Aug. 1951 (K); same locality, *M. Bernard* SRF 539, fl. 25 Sep. 1951 (K); Mondah, *M. Estasse* SRF 581, lvs. 18 Oct. 1951 (K).

Ecology: Rain-forest tree.

The known distribution of these taxa is shown in fig. 3. It is interesting to observe that all three taxa are known to occur in Gabon within approximately 100 km. of each other. *E. sessilis* is at present known by only one specimen, but the specimens of the two varieties of *E. exsul* are more numerous and show distinct areas. *E. exsul* var. *exsul* extends from the French Cameroons and Gabon southwards and eastwards to Yangambi where only the one taxon is known, and var. *platyphyllus* extends northwards and westwards to S.E. Nigeria where again only the one taxon is known.

We are much indebted to M. GEORGES LE TESTU who loaned to Kew specimens from his own rich herbarium for our examination and kindly asked the Section de Recherches Forestières in Gabon to obtain further material. MM. BERNARD and ESTASSE (of the Service

des Eaux et Forêts) who collected this new material in Gabon note that *Erismadelphus exsul* var. *platyphyllus* is very abundant in littoral forest where as many as 40 trees per hectare may be found.

In conclusion we wish to acknowledge our gratitude to Prof. H. HUMBERT and his staff at the Laboratoire de Phanérogamie, Muséum

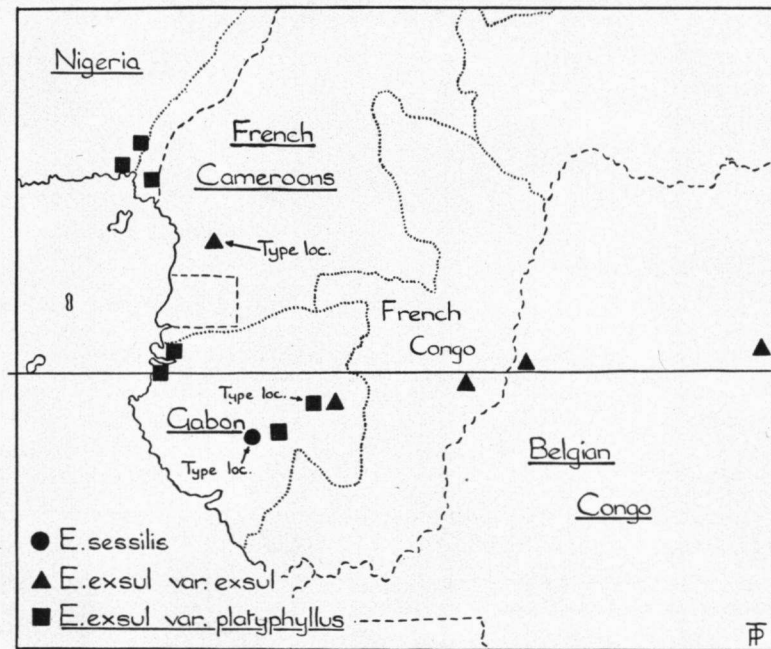


Fig. 3. Geographical distribution of the species and varieties of *Erismadelphus*.

d'Histoire Naturelle, Paris, for it was there that we were able to revise the genus. The second author acknowledges gratefully the financial support given to him by the Centre National de la Recherche Scientifique on the suggestion of the Netherlands Organization of Pure Research (Z.W.O.).